MAINE LEARNING

MLTI

TECHNOLOGY INITIATIVE

MLTI: Redefining Education

Jeff Mao
Learning Technology Policy Director
Maine Department of Education

October 11, 2011

Goals

- Equity
- Integration with Maine's Learning Results
- Sustainability/Avoiding Obsolescence
- Teacher Preparation and Professional Development
- Economic Development
- Learner Centric

A Personal Digital Device, at the Point of Learning, as Defined by the Learner

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No Student without a Device for more than 24 Hours

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Timeline

2001	First RFP	
2002	“7th grade” Deployment	17,000
2003	“8th grade” Deployment	36,000
2004	High School Pilot	
2006	Second RFP & Second 7/8 Deployment	36,000
2007	High School Teachers	45,000
2009	Third 7/8 Deployment + HS Expansion	72,000
2012	Third RFP - Merry Christmas	
2013	Anticipated 100% adoption, 7-12 grade	110,000

BY THE NUMBERS

- ★ ~60,000 Students
  - 100% 7-8th grade schools
  - 55% 9-12th grade schools
- ★ ~11,000 Educators
- ★ >72,000 MLTI Devices (aka MacBooks)
- ★ 422 participating schools

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Behind the Scenes

- Maine School and Library Network
  - Providing "Broadband" to Maine schools since 1996
- MLTI Project Team
  - 26 FTE

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MLTI Contract

- Devices
- Software
- Warranty
- Support
- Repairs
- Replacements
- Wireless Network
- Online LMS & Backup
- Professional Development
- Project Management/ Support

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State Policies

- Take Home Policies Mandatory
- Internet Safety/Digital Citizenship
- Parent Meetings

"The Image"

- Admin, teacher, student, parent accounts
- custom configs - acls, desktop, energy svr
- battle-tested for stability
- custom tools - permission slip,web history
- backup
- reimage - USB flash
- software to support education

Hardware Support

- MLTI Local Depot
  - online dispatch
  - tracking
  - shipping
  - history

Power

- "Battery should last a school day"
  - replacement batteries included
  - overnight shipping with returns/ recycling

Replacements

- Buffer Pool
  - Accidental damage and Stolen devices
  - 2006-2009 about 0.6% annual
  - current about 1%

Asset Manager

- Asset data, devices and wireless networks
- School to school transfers
- Device log for techs

Wireless Network

- Designed and installed by Apple in coordination with Cisco and Systems Engineering.
- All Cisco controller-based network
- New cabling, patch panels, switches, controller, access points
- SMARTNet, MLTI Supported

Digital Content


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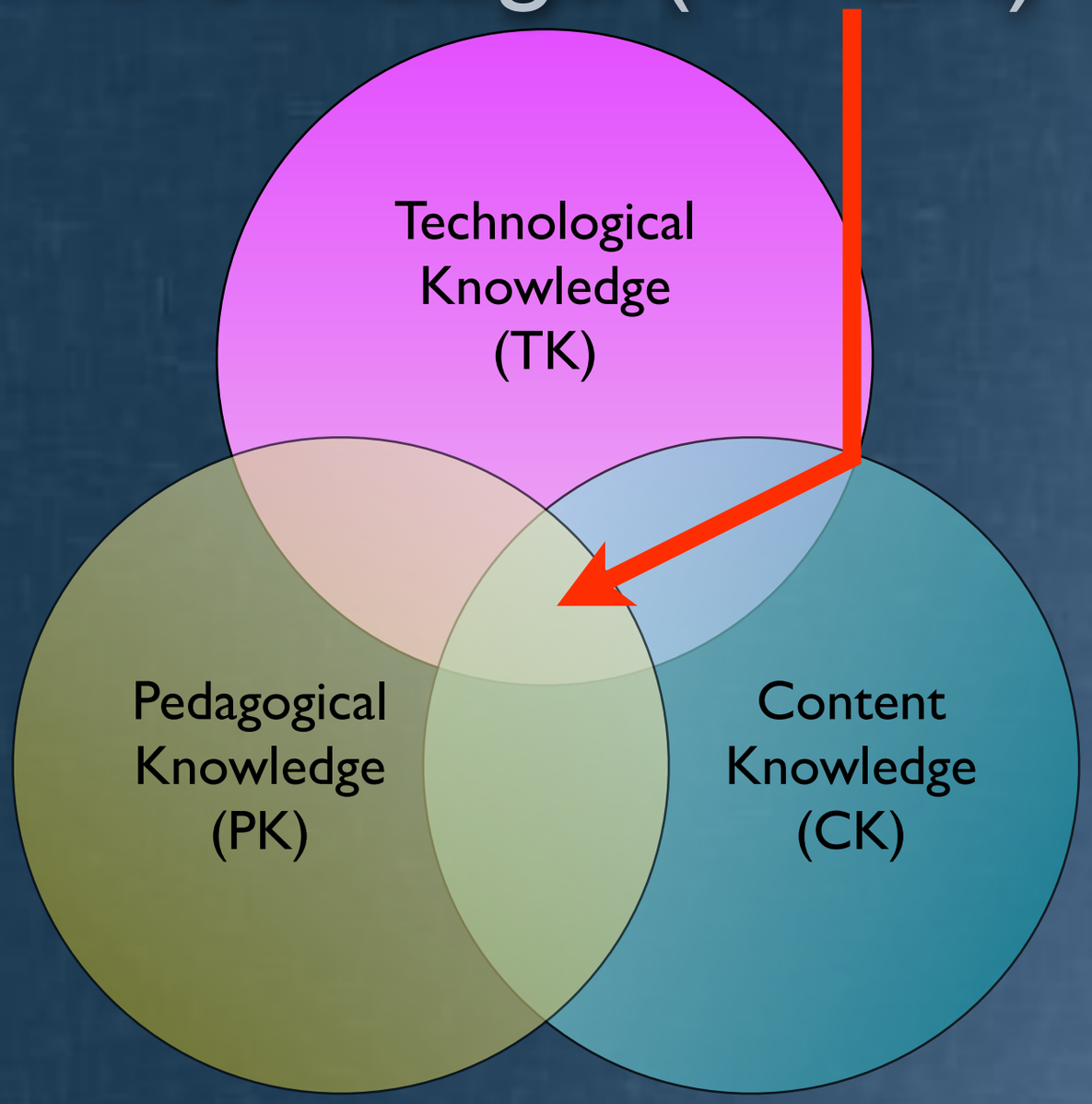
Technological Pedagogical Content Knowledge (TPCK)



Dr. Matthew Koehler and Dr. Punya Mishra

http://www.tpck.org

Augmentation → Acts as a direct tool substitute, with functional improvement

Substitution → Acts as a direct tool substitute, with no functional change

Augmentation

Acts as a direct tool substitute, with functional improvement

Substitution

Acts as a direct tool substitute, with no functional change

Redefinition → Allows for the creation of new tasks, previously inconceivable

Modification → Allows for significant task redesign

Augmentation → Acts as a direct tool substitute, with functional improvement

Substitution → Acts as a direct tool substitute, with no functional change

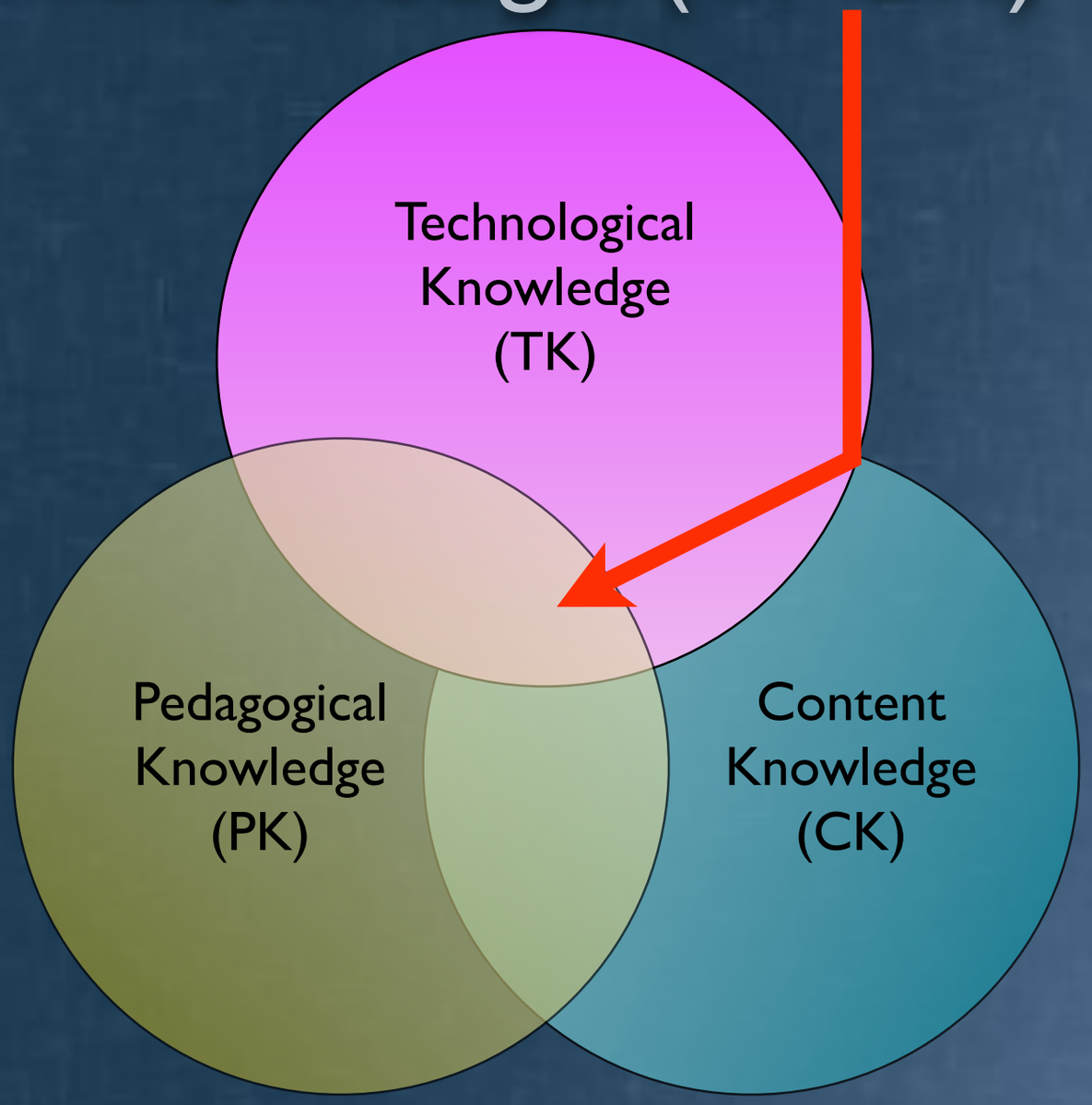
SAMR

Dr. Ruben Puentadura

http://www.mlti.org/presentations

http://www.hippasus.com/resources/tte/

Technological Pedagogical Content Knowledge (TPCK)



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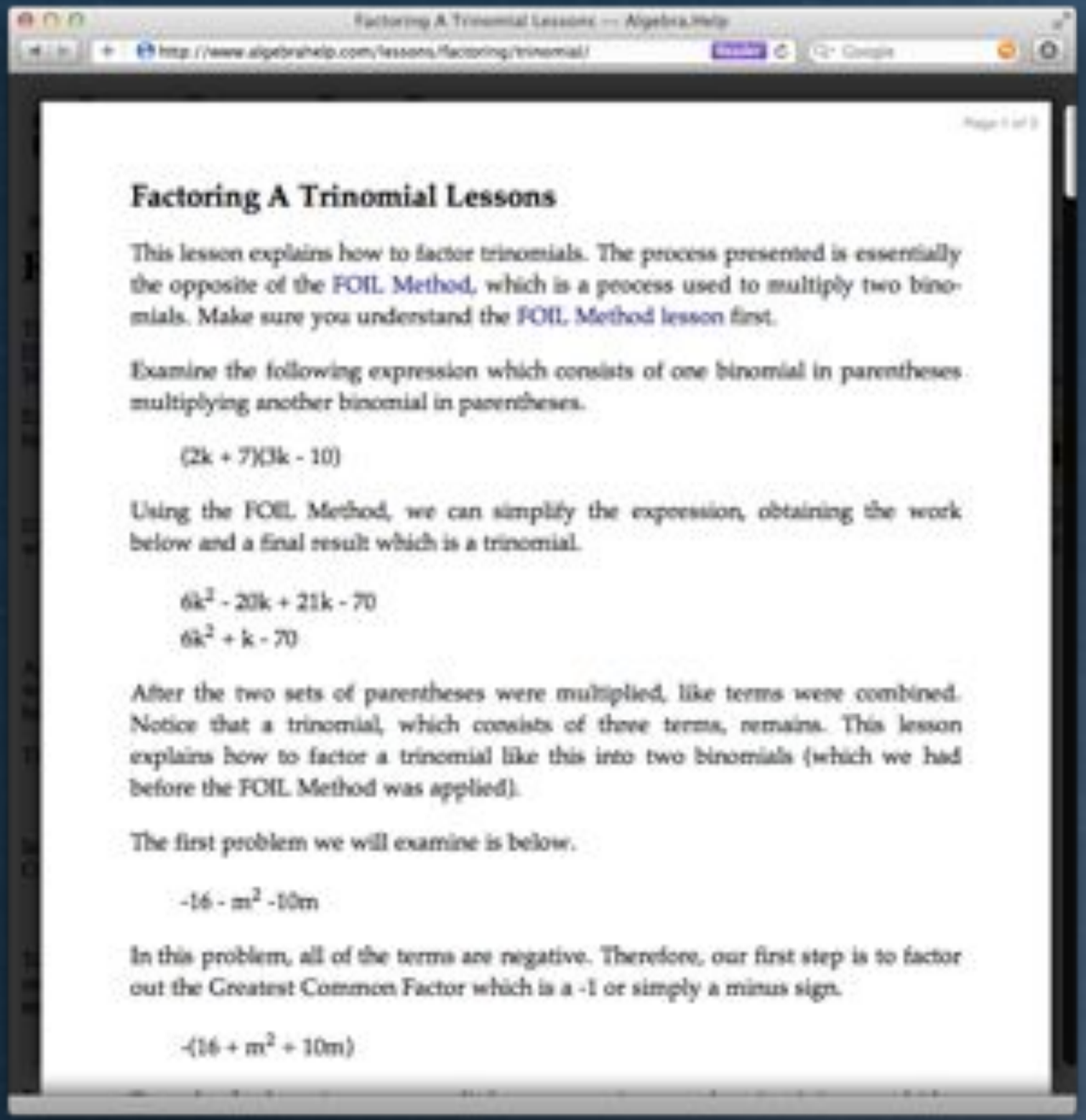
Content
Knowledge
(CK)

Content

Substitution



Factoring A Trinomial Lessons — Algebra.Help

http://www.algebrahelp.com/lessons/factoring/trinomial/

Factoring A Trinomial Lessons

This lesson explains how to factor trinomials. The process presented is essentially the opposite of the FOIL Method, which is a process used to multiply two binomials. Make sure you understand the FOIL Method lesson first.

Examine the following expression which consists of one binomial in parentheses multiplying another binomial in parentheses.

$(2k + 7)(3k - 10)$

Using the FOIL Method, we can simplify the expression, obtaining the work below and a final result which is a trinomial.

$6k^2 - 20k + 21k - 70$
$6k^2 + k - 70$

After the two sets of parentheses were multiplied, like terms were combined. Notice that a trinomial, which consists of three terms, remains. This lesson explains how to factor a trinomial like this into two binomials (which we had before the FOIL Method was applied).

The first problem we will examine is below.

$-16 - m^2 - 10m$

In this problem, all of the terms are negative. Therefore, our first step is to factor out the Greatest Common Factor which is a -1 or simply a minus sign.

$-(16 + m^2 + 10m)$

Augmentation

Modification

Content Adoption

Traditional

Order Sample Copies

Content Adoption

Traditional

Order Sample Copies

Content Adoption

Review Sample
Identify pros and cons

Traditional

Order Sample Copies

Content Adoption

Review Sample
Identify pros and cons

Traditional

Choose Least
Objectionable

Order Sample Copies

Content Adoption

Review Sample
Identify pros and cons

Choose Least
Objectionable

Augment/Replace
Parts

Traditional

Order Sample Copies

Review Sample
Identify pros and cons

Choose Least
Objectionable

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Parts

Content Adoption

Traditional

Order Sample Copies

Content Adoption

Augment/Replace Parts

Review Sample
Identify pros and cons

1-9 years?!

Traditional

Choose Least Objectionable

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Content Adoption

Redefinition

Search & Discover

Content Adoption

Redefinition

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Content Adoption

Review Artifact
Identify pros and cons

Redefinition

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Content Adoption

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Identify pros and cons

Redefinition

Choose Least
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Identify pros and cons

Choose Least Objectionable

Redefinition

Modify & Remix

MLTI

Search & Discover

Review Artifact
Identify pros and cons

Choose Least Objectionable

Modify & Remix

Add to Playlist

Content Adoption

Redefinition

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Review Artifact
Identify pros and cons

Choose Least
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Modify &
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Content Adoption

Redefinition

MAINE LEARNING TECHNOLOGY INITIATIVE

Search & Discover

Review Artifact
identify pros and cons

Choose Least
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Add to
Playlist

Content Adoption

3 years!

Redefinition

MLTI

Search & Discover

"iTunes" for Educational Digital Content

- Searchable
  - ISBN
  - Standards Tagging
  - MetaTagging
  - ParaData Exchange
    - LearningRegistry.org
- Reviews & Comments
- User Profiles & User Reputation
- Shareable Playlists
- Friends & Followers

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Professional Development

Contextual & Role-based
Teaching & Learning
Leadership
Technical

Seek solutions, not hardware

form follows function

"Execution is as important as vision"

Governor Angus King

Structure should liberate, not confine

from the Mission Statement of the Allendale Columbia School, Rochester, NY

Define your own success

What does technology integration mean? What does it look like?

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- http://www.MLTI.org/rfp
  - Request For Proposals
- http://www.Maine121.org
  - Professional Development
- jeff.mao@maine.gov

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